

SEQUENCE LISTING

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WANG, Ming-Bo
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<120> METHODS AND MEANS FOR OBTAINING MODIFIED PHENOTYPES

<130> 021565-060

<140> 09/287,632

<141> 1999-04-07

<150> US 09/127,735

<151> 1998-08-03

<150> US 09/056,767

<151> 1998-04-08

<160> 7

<170> PatentIn Ver. 2.0

<210> 1

<211> 854

<212> DNA

<213> Potato virus Y

<220>

<223> fragment of the NIa ORF

<400> 1

aagctttgaa gattgatttg atgccacata acccactcaa aatttgtgac aaaacaaatg 60
gcattgccaa atttcctgag agagagttcg agctaaggca gactgggcca gctgtagaag 120
tcgacgtgaa ggacatacca gcacaggagg tggaacatga agctaaatcg ctcatgagag 180
gcttgagaga cttcaaccca attgcccaaa cagttttag gctgaaagta tctgttgaat 240
atgggacatc agagatgtac ggttttggat ttggagcgta cataatagcg aaccaccatt 300
tgttcaggag ttataatggg tccatggagg tacgatccat gcacggtaca ttcagggtaa 360
agaatctaca cagtttgagc gttctgccaa ttaaaggtag ggacatcatc ctcattaaaa 420
tgccaaaaga tttccctgtc tttccacaga aattgcattt ccgagctcct acacagaacg 480
aaagaatttg tttagttgga accaactttc aggagaagta tgcacgtcg atcatcacag 540
aagcaagcac tacttacaat ataccaggca gcacattctg gaagcattgg attgaaacag 600
ataatggaca ctgtggacta ccagtggtga gcactgccga tggatgtcta gtcggaattc 660
acagtttggc aaacaatgca cacaccacga actactactc agccttcgat gaagattttg 720
aaagcaagta cctccgaacc aatgagcaca atgaatgggt caagtcttgg atttataatc 780
cagacacagt gttgtggggc ccgttgaaac ttaaagacag cactcctaaa gggttattta 840
aaacaacaaa gctt 854

<210> 2

<211> 2186

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: coding region
of the Gusd CoP construct

<220>

<221> misc_structure

<222> ()..)

<223> deficient Gus coding region

<220>

<221> misc_feature

<222> ()..(2186)

<223> antisense to the 5' end of the Gus coding region

<400> 2

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atggtacgtc ctgtagaaac cccaaccggt gaaatcaaaa aactcgacgg cctgtgggca 60
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gaaagccggg caattgctgt gccaggcagt tttaacgatc agttcgccga tgcagatatt 180
cgtaattatg cgggcaacgt ctggtatcag cgcaagtct ttataccgaa aggttgggca 240
ggccagcgta tctgtctgctg tttcgatgctg gtcactcatt acggcaaagt gtgggtcaat 300
aatcaggaag tgatggagca tcagggcggc tatacgccat ttgaagccga tgtcacgcgc 360
tatgttattg ccgggaaaaag tgtacgtatc accgtttgtg tgaacaacga actgaactgg 420
cagactatcc cgccgggaat ggtgattacc gacgaaaacg gcaagaaaaa gcagtcttac 480
ttccatgatt tctttaacta tgccggaatc catcgccgcg taatgctcta caccacgcgc 540
aacacctggg tggacgatat ctaccgcgtt cgcgtcggca tccggtcagt ggcagtgaag 600
ggcgaacagt tcttgattaa ccacaaaccg ttctacttta ctggctttgg tgcgtcatgaa 660
gatgcggact tgcgtggcaa aggattcgat aacgtgctga tgggtgcacga ccacgcatta 720
atggactgga ttggggccaa ctctaccgt accctgcatt acccttacgc tgaagagatg 780
ctcgactggg cagatgaaca tggcatcgtg gtgattgatg aaactgctgc tgcggcttt 840
aacctctctt taggcattgg tttcgaagcg ggcaacaagc cgaaagaact gtacagcgaa 900
gaggcagtca acggggaaac tcagcaagcg cacttacagg cgattaaaga gctgatagcg 960
cgtgacaaaa accaccaag cgtggtgatg tggagtattg ccaacgaacc ggataccggt 1020
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acgcgtccga tcacctgctg caatgtaatg ttctgcgacg ctcacaccga taccatcagc 1140
gatctctttg atgtgctgtg cctgaaccgt tattacggat ggtatgtcca aagcggcgat 1200
ttggaaacgg cagagaaggt actggaaaaa gaacttctgg cctggcagga gaaactgcat 1260
cagccgatta tcatcaccga atacggcggtg gatacggttag ccgggctgca ctcaatgtac 1320
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cgtacacttt tcccggcaat aacatacggc gtgacatcgg cttcaaattg cgtatagccg 1860
ccctgatgct ccatcacttc ctgattattg acccacactt tgccgtaatg agtgaccgca 1920
tcgaaacgca gcacgatacg ctggcctgcc caacctttcg gtataaagac ttcgcgctga 1980
taccagacgt tgcccgcata attacgaata tctgcacgga cgaactgatc gttaaaactg 2040
cctggcacag caattgcccg gctttcttgt aacgcgcttt ccaccaacg ctgatcaatt 2100
ccacagtttt cgcgatccag actgaatgcc cacaggccgt cgagtttttt gatttcacgg 2160
gttggggttt ctacaggacg taccat

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<210> 3

<211> 208

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:5'UTR of
Johnson mosaic virus

<400> 3

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ccttacaaag atcttcgcag tcgttcacac acagattcac cgaaccattc ttgttagctc 120
tcgcacagag ataagcagga aaccatggca ggtgagtggg acacagtttg atagtaagag 180
aaaccagagg aagactgcag gtacccgc 208
```

<210> 4

<211> 1150

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Subterannean
clover virus S4 promoter with S7 enhancer

<400> 4

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aatctgcagc ggccgcttaa tagtaattat gattaattat gagataagag ttgttattat 60
gcttatgagg aataaagaat gattaatatt gtttaatttt attccgcgaa gcgggtgtgtt 120
atgtttttgt tggagacatc acgtgactct cacgtgatgt ctccgcgaca ggctggcacg 180
gggcttagta ttaccccggt ccggatcaga gacatttgac taaatattga cttggaataa 240
tagcccttgg attagatgac acgtggacgc tcaggatctg tgatgctagt gaagcgctta 300
agctgaacga atctgacgga agagcggaca tacgcacatg gattatggcc cacatgtcta 360
aagtgtatct ctttacagct atattgatgt gacgtaagat gctttacttc gcttcgaagt 420
aaagtaggaa attgctcgct aagttattct tttctgaaag aaattattta attctaatta 480
aattaaatga gtcgctataa atagtgtcga tgctgcctca catcgatttc ttcttcgcat 540
cgtctgttct ggttttaagc gggatccagg cctcgagata tcggtacctt gttattatca 600
ataaaagaat ttttattggt attgtgttat ttggtaattt atgcttataa gtaattctat 660
gattaattgt gaattattaa gactaatgag gataataatt gaatttgatt aaattaactc 720
tgcaagcta tatgtctttc acgtgagagt cacgtgatgt ctccgcgaca ggctggcacg 780
gggcttagta ttaccccggt ccgggatcag agacatttga ctaaagtgtg acttgggaata 840
atagcccttg gattagatga cacgtggacg ctcaggatct gtgatgctag tgaagcgctt 900
aagctgaacg aatctgacgg aagagcggac aaacgcacat ggactatggc ccaactgcttt 960
attaaagaag tgaatgacag ctgtctttgc ttcaagacga agtaaagaat agtggaaaac 1020
gcgtaaagaa taagcgtaact cagtacgctt cgtggcttta tataaatagt gcttcgtctt 1080
attcttcgtt gtatcatcaa cgaagaagtt aagctttgtt ctgcgtttta atgatcgatg 1140
gccagtcgac 1150
```

<210> 5

<211> 1052

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: subterranean
clover virus promoter S4 with S4 enhancer

<400> 5

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ggatccaggc ctcgagatat cggtaacctg ttattatcaa taaaagaatt tttattgtta 60
ttgtgttatt tggaattta tgcttataag taattctatg attaattgtg aattattaag 120
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```

actaatgagg ataataattg aatttgatta aattaactct gccaagctat atgtctttca 180
cgtgagagtc acgtgatgtc tccgcgacag gctggcacgg ggcttagtat taccocgtgc 240
cgggatcaga gacatttgac taaatgttga cttggaataa tagcccttgg attagatgac 300
acgtggacgc tcaggatctg tgatgctagt gaagcgctta agctgaacga atctgacgga 360
agagcggaca aacgcacatg gactatggcc cactgcttta ttaaagaagt gaatgacagc 420
tgtctttgct tcaagacgaa gtaaagaata gtggaaaacg cgtggatcca ggccctcgaga 480
tatcggtacc ttgttattat caataaaaga atttttattg ttattgtgtt atttggtaat 540
ttatgcttat aagtaattct atgattaatt gtgaattatt aagactaatg aggataataa 600
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gactaaatgt tgacttgga taatagccct tggattagat gacacgtgga cgctcaggat 780
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gaagtaaaga atagtggaaa acgcgtaaag aataagcgta ctcagtacgc ttcgtggctt 960
tatataaata gtgcttcgct ttattcttcg ttgtatcatc aacgaagaag ttaagctttg 1020
ttctgcgttt taatgatcga tggccagtcg ac 1052

```

<210> 6

<211> 1583

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: coding
sequence of the desaturase CoP construct

<220>

<221> misc_feature

<222> (1)..(480)

<223> corresponding to the 5' end of the
delta12-desaturase (fad2) coding region, in sense
orientation

<220>

<221> misc_feature

<222> (1101)..(1583)

<223> corresponding to the 5' end of the
delta12-desaturase (fad2) coding region, in anti
sense orientation

<400> 6

```

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atctgggtca tagcccacga atgcgggtcac cacgcattca gcgactacca atggctggat 180
gacacagttg gtcttatctt ccattccctc ctctctgtcc cttacttctc ctggaagtat 240
agtcacgcgc gtcaccattc caaacactgga tccctcgaaa gagatgaagt atttgtecca 300
aagcagaaat cagcaatcaa gtggtacggg aaataacctc acaacctctt tggacgcac 360
atgatgttaa ccgtccagtt tgctctcggg tggcccttgt acttagcctt taacgtctct 420
ggcagaccgt atgacggggt cgcttgccat ttcttcccca acgctcccat ctacaatgac 480
cgagaacgcc tccagatata cctctctgat gcgggtattc tagccgtctg ttttggtctt 540
taccgttacg ctgctgcaca agggatggcc tcgatgatct gcctctacgg agtaccgctt 600
ctgatagtga atgcgttcct cgtcttgatc acttacttgc agcacactca tccctcgttg 660
cctcactacg attcatcaga gtgggactgg ctcaggggag ctttggttac cgtagacaga 720
gactacggaa tcttgaacaa ggtgttccac aacattacag acacacacgt ggctcatcac 780
ctgttctcga caatgccgca ttataacgca atggaagcta caaaggcgat aaagccaatt 840

```

```

ctgggagact attaccagtt cgatggaaca ccgtggtatg tagcgatgta tagggaggca 900
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aacaataagt tatgagcatg atggtgaaga aattgtcgac ctttctcttg tctgtttgtc 1020
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tgtttgacct gccaatgtga gtactacgca ggttctccca acaactccat aaagggcatg 1260
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accttctatt ctggttgaca cagtaggtcg gtaaccatca gcgacttaag caccactggc 1440
gtaagcaccg gatactgggt ctatggtcaa tcctgtgtcg gaactgtccg gggttatctc 1500
ccggttcggt tcattctctc tccgactccc tcctctctct tcattaacca ccgctgcac 1560
atcttcgtac tccgatatta cta
1583

```

<210> 7

<211> 786

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: intron 2 of
the Flaveria trinervia purvate orthophosphate
dikinase

<400> 7

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atattgttta cataaacaac atagtaatgt aaaaaaatat gacaagtgtat gtgtaagacg 180
aagaagataa aggttgagag taagtatatt atttttaatg aatttgatcg aacatgtaag 240
atgatatact agcattaata tttgttttaa tcataatagt aattctagct ggtttgatga 300
attaaatatac aatgataaaa tactatagta aaaataagaa taaataaatt aaaataatat 360
ttttttatga ttaatagttt attatataat taaatatcta taccattact aaatatattta 420
gtttaaaagt taataaatat tttgttagaa attccaatct gcttgtaatt tatcaataaa 480
caaaatatta aataacaagc taaagtaaca aataatatca aactaataga aacagtaatc 540
taatgtaaca aaacataatc taatgctaat ataacaaagc gcaagatcta tcattttata 600
tagtattatt ttcaatcaac attcttatta atttctaaat aatacttgta gttttattaa 660
cttctaaatg gattgactat taattaaatg aattagtcga acatgaataa acaaggtaac 720
atgatagatc atgtcattgt gttatcattg atcttacatt tggattgatt acagttggga 780
aagctt
786

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